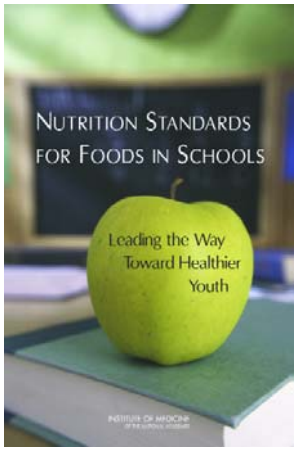
REPORT BRIEF • APRIL 2007

Nutrition Standards for Foods in Schools: Leading the Way Toward Healthier Youth



Research has shown that the school environment has a vital role in shaping children's health behaviors. The rise in obesity over the past 2-3 decades has been accompanied by an increase in the number of alternative food options available on school campuses. These "competitive foods" that are obtained from a variety of sources, including à la carte service in the school cafeteria, school stores and snack bars, and vending machines, are vying with the traditional breakfast and lunch offered through federally reimbursable school nutrition programs. Children spend the majority of their day at school, often staying for after-school activities; the foods and beverages available during and after school can contribute a number of calories to their total daily consumption.

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Children in the United States are becoming more overweight and obese, putting them at risk for serious health concerns such as diabetes, cardiovascular disease, and elevated cholesterol and blood pressure levels. In addition to the risk of obesity-related health concerns, poor food choices could lead to other health concerns, like osteoporosis from inadequate calcium intake.

In response to growing concerns over obesity, national attention has focused on the need to establish school nutrition standards and limit access to competitive foods. As a result, over the past few years, school nutrition policy initiatives have been put into place at federal, state, and local levels. Two important federal initiatives have enhanced school health-related policy efforts. First, in 1994, the Centers for Disease Control (CDC) developed the Coordinated School Health Program, comprised of eight interactive components to improve students' health. The second initiative was the Child Nutrition and WIC Reauthorization Act, passed in 2004, which required that local education agencies develop a wellness policy for schools to address the problem of childhood obesity by 2006. However, responses of school districts to meeting wellness policy requirements have not been consistent.

Thus, to augment local wellness policies, Congress directed the CDC to undertake a study with the Institute of Medicine (IOM) to review and make recommendations about appropriate nutritional stands for the availability, sale, content and consumption of foods at school, with attention on competitive foods. The ensuing report, *Nutrition Standards for Healthy Schools: Leading the Way Toward Healthier Youth*, concluded that federally-reimbursable school nutrition programs should be the main source of nutrition at school, and opportunities for competitive foods should be limited. However, if competitive foods are available, they should consist of nutritious fruits, vegetables, whole grains, and nonfat or low-fat milk and dairy products, consistent with

the 2005 Dietary Guidelines for Americans (DGA), to help children and adolescents develop healthful lifelong eating patterns.

GUIDING PRINCIPLES FOR EATING HEALTHY AT SCHOOL

The IOM report lays out a set of guiding principles to support the creation of healthful eating environments for U.S. school children, as shown in Box 1.

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Box 1. Guiding Principles

The committee recognizes that:

1. The present and future health and well-being of school-age children are profoundly affected by dietary intake and the maintenance of a healthy weight.

2. Schools contribute to current and life-long health and dietary patterns and are uniquely positioned to model and reinforce healthful eating behaviors in partnership with parents, teachers, and the broader community.

3. Because all foods and beverages available on the school campus represent significant caloric intake, they should be designed to meet nutritional standards.

4. Foods and beverages have health effects beyond those related to vitamins, minerals, and other known individual components.

5. Implementation of nutrition standards for foods and beverages offered in schools will likely require clear policies; technical and financial support; a monitoring, enforcement, and evaluation program; and new food and beverage products.

The committee intends that:

6. The federally reimbursable school nutrition programs will be the primary source of foods and beverages offered at school.

7. All foods and beverages offered on the school campus will contribute to an overall healthful eating environment.

8. Nutrition standards will be established for foods and beverages offered outside the federally reimbursable school nutrition programs.

9. The recommended nutrition standards will be based on the Dietary Guidelines for Americans, with consideration given to other relevant science-based resources.

10. The nutrition standards will apply to foods and beverages offered to all school-age children (generally ages 4 through 18 years) with consideration given to the developmental differences between children in elementary, middle, and high schools.

ORGANIZING FOODS AND BEVERAGES INTO A TIER SYSTEM

The authoring committee systemically organized foods and beverages offered separately from federally-reimbursable school nutrition programs into two tiers according to their consistency with the DGA, as shown in Table 1.

Tier 1 foods and beverages provide at least one serving of fruit, vegetables and/or whole grains, or nonfat/low-fat dairy products and are foods to be encouraged. Tier 2 foods and beverages fall short of meeting Tier 1 criteria, but they do not fall outside the DGA recommendations, and so are allowed, but only in specific circumstances. The committee recommends that plain, potable water is available throughout the school day at no cost to students.

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TABLE 1. Foods and Beverages That Meet Tier 1 and Tier 2 Standards

Foods	Beverages
Tier 1 for All Students	
Tier 1 foods are fruits, vegetables, whole grains, and related combination products* and nonfat and low-fat dairy that are limited to 200 calories or less per portion as packaged and: • No more than 35 percent of total calories from fat • Less than 10 percent of total calories from saturated fats • Zero trans fat (less than or equal to 0.5 g per serving) • 35 percent or less of calories from total sugars, except for yogurt with no more than 30 g of total sugars, per 8-oz. portion as packaged • Sodium content of 200 mg or less per portion as packaged Á la carte entrée items meet fat and sugar limits as listed above and:** o Are National School Lunch Program (NSLP) menu items o Have a sodium content of 480 mg or less	Tier 1 beverages are: • Water without flavoring, additives, or carbonation. • Low-fat* and nonfat milk (in 8 oz. portions): o Lactose-free and soy beverages are included o Flavored milk with no more than 22 g of total sugars per 8-oz. portion • 100-percent fruit juice in 4-oz. portion as packaged for elementary/middle school and 8 oz. (two portions) for high school. • Caffeine-free, with the exception of trace amounts of naturally occurring caffeine substances.
*Combination products must contain a total of one or more servings as packaged of fruit, vegetables, or whole grain products per portion. **200-calorie limit does not apply; items cannot exceed calorie content of comparable NSLP entrée items.	*1-percent milk fat

Tier 2 for High School Students After School

Tier 2 snack foods are those that do not exceed 200 calories per portion as packaged and:

- No more than 35 percent of total calories from fat
- Less than 10 percent of total calories from saturated fats
- Zero trans fat (less than or equal to 0.5 g per portion)
- 35 percent or less of calories from total sugars
- Sodium content of 200 mg or less per portion as packaged.

Tier 2 beverages are:

- Non-caffeinated, non-fortified beverages with less than 5 calories per portion as packaged (with or without nonnutritive sweeteners, carbonation, or flavoring).

Items containing significant amounts of added sugars typically provide "empty calories"—contributing calories without substantial amounts of other nutrients—thus, limiting foods high in added sugars is recommended.

TRIMMING THE EXCESS FROM SCHOOL FOODS AND BEVERAGES

Dietary Fats

Americans consume too much saturated fat, which is associated with increased risk for cardiovascular disease. And like saturated fats, trans fats found in hydrogenated oils increase low-density lipoprotein (LDL) cholesterol, which can further increase risk for heart disease. Trans fats also decrease high-density lipoprotein (HDL) cholesterol, or "good" cholesterol, which protects against heart disease. The committee recommends that snacks, food, and beverages meet the following criteria for dietary fat per portion as packaged: no more than 35 percent of total calories from fat, less than 10 percent of total calories from saturated fats, and trans fat-free.

Added Sugars

Items containing significant amounts of added sugars typically provide "empty calories"—contributing calories without substantial amounts of other nutrients—thus, limiting foods high in added sugars is recommended. The committee believes that limiting sugars to no more than 35% of the item's calories (for nondairy products) is achievable and will contribute to efforts to improve children's eating habits. Dairy products are excepted because they provide calcium for bone health. To avoid eliminating popular dairy products due to the sugars content, the committee made an exception that flavored nonfat and low-fat milk can contain up to 22 grams of total sugars per 8 oz portion and flavored nonfat and low-fat yogurt can contain up to 30 grams of total sugars per 8 oz portion. These standards will maintain product palatability while still reducing intake of added sugars.

Nonnutritive Sweeteners and Soda

In regards to nonnutritive sweeteners (e.g., sugar substitutes like aspartame and saccharin), the committee considered four important issues: safety, displacement of other foods and beverages that should be encouraged, effectiveness for weight control, and the role of choice and necessity. Given the limited amount of consistent evidence, the committee took a cautious approach in its recommendations for the use of nonnutritive sweeteners in schools.

There is some evidence that nonnutritive sweeteners in beverages specifically are an effective weight management tool; however, because they have been shown to dis-

place milk and 100% juice when they are chosen at mealtimes, these competitive beverages should be allowed only in high schools, and only after the school day has ended.

Regarding nonnutritive sweeteners in foods, the committee found a lack of evidence about the effectiveness of nonnutritive sweeteners in foods for weight management. Also, while available studies of the safety of nonnutritive sweeteners have given assurance that they can be marketed and consumed by the public, there are not any studies that have looked for potential effects when these substances are consumed over many years, starting in childhood or teen years. Therefore, the committee did not make recommendations regarding foods containing nonnutritive sweeteners.

Flavored, Carbonated, and Fortified Waters

Schools should make plain, unflavored water available for free throughout the school day, either in the form of bottled water or from water fountains. The committee recommends restricting carbonated water, fortified water, flavored water, and similar products because kids who drink these products may forgo healthier beverages like milk and juice. Also, they are not necessary for hydration purposes, and the growing variety of products increases the difficulty people have in making clear distinctions among them. In addition, the committee did not wish to encourage manufacturers to produce more beverages and foods with nonnutritive components aimed at children rather than products that provide fruits, vegetables, whole grains or healthy dairy.

Sports Drinks

Sports drinks contain significant amounts of sugar or other sweeteners and therefore exceed the standards to be considered Tier 1 or Tier 2 beverages. However, they do provide electrolytes, energy and hydration—all things that people involved in vigorous physical activity may need. The committee recommends that at the discretion of coaches they be available to students engaged in vigorous activity lasting an hour or more.

After-School Activities

After-school activities that are attended mainly by students represent an extension of the regular school day. So only Tier 1 products should be available during after-school activities involving elementary and middle school students. Tier 1 and Tier 2 items should be available to high school students engaged in activities on the school campus after school.

There are also many events that take place on school grounds and involve both students and adults or mainly adults. The committee recognizes that attempting to regulate items sold at such events may be impractical and even undesirable. But schools are encouraged to use foods and drinks that meet nutritional standards.

Fundraising Products

The committee recognizes that many school clubs and organizations have a tradition of selling candy and other foods and drinks for fundraisers. Fundraising is an important activity, but it can be done with healthy foods and drinks if not with other inedible products. Elementary, middle, and high schools should allow only Tier 1 products to be sold on campus for fundraising purposes. In addition to Tier 1 items,

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high schools could allow Tier 2 items after school to be used for on-campus fundraising as well. For evening and community activities that include adults, Tier 1 and 2 foods and beverages are encouraged.

Caffeine

The committee did not support the sale of caffeinated products to school-age children because of the potential for negative effects, including shakiness, headaches, and other symptoms of dependency and withdrawal that could disrupt their abilities to concentrate and learn. They recognize that some products that do not meet the minimal amount, such as chocolate milk, contain naturally occurring trace amounts of caffeine and those items are permissible.

Marketing Foods and Beverages at Schools

Marketing of foods and beverages in schools should be limited, as recommend in the 2005 IOM report, Food Marketing to Children and Youth: Threat or Opportunity?...

Competitive foods and beverages should be limited during the school day, and at after-school events and activities—especially those that are attended mainly by students as an extension of the school day. Marketing of foods and beverages in schools should be limited, as recommend in the 2005 IOM report, F*ood Marketing to Children and Youth: Threat or Opportunity?*, and the following standards should be implemented:

- Locate Tier 2 food and beverage distribution in low student traffic areas and ensure that the exterior of vending machines does not depict commercial prod ucts or logos or suggest that consumption of vended items conveys a health or social benefit.
- Tier 1 snack items are allowed after school for student activities for elementary and middle schools. Tier 1 and 2 snacks are allowed after school for high school.
- For on-campus fundraising activities during the school day, Tier 1 foods and beverages only are allowed for elementary and middle schools; Tier 1 and 2 foods and beverages are allowed for high schools. For evening and community activities that include adults, Tier 1 and 2 foods and beverages are encouraged.

Implementation of Nutrition Standards in Schools

Appropriate policy-making bodies should ensure that recommendations are fully adopted by providing:

- Regulatory guidance to federal, state, and local authorities;
- Designated responsibility for overall coordination and oversight to federal, state, and local authorities; and
- Performance-based guidelines and technical and financial support to schools or school districts, as needed.

Appropriate federal agencies should engage with the food industry to:

- Establish a user-friendly identification system for Tier 1 and 2 snacks, foods, and beverages that meet the standards per portion as packaged; and
- Provide specific guidance for whole-grain products and combination products that contain fruits, vegetables, and whole grains.

CONCLUSION

The federally reimbursable school nutrition programs traditionally have been an important means for ensuring that students have daily access to fruits, vegetables, whole-grain-based products, and nonfat or low-fat dairy products during the school day.

The committee's view is that these programs should be the main source of nutrition provided at school. However, the committee also recognizes that there are an increasing number of opportunities for students to eat and drink, including á la carte services, vending machines, school stores, snack bars, concession stands, classroom or school celebrations, achievement rewards, after-school programs, and other venues.

Thus, schools are encouraged to limit such additional opportunities for students to eat and drink, but when they do arise in school, they should be used to encourage greater daily consumption of fruits, vegetables, whole grains, and nonfat or low-fat dairy products. The recommendations in this report are intended to ensure that offerings in these venues are consistent with the DGA and, in particular, to help children and adolescents meet the guidelines for consumption of fruits, vegetables, whole grains, and nonfat or low-fat dairy products.

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FOR MORE INFORMATION...

Copies of *Nutrition Standards for Foods in Schools: Steps Toward Healthier Youth in America* are available from the National Academies Press, 500 Fifth Street, N.W., Lockbox 285, Washington, DC 20055; (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area); Internet, http://www.nap.edu. The full text of this report is available at http://www.nap.edu.

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